# Board Social Connections and their Corporate Governance Effect:

A Comparison of US and Foreign Firms Listed in the US

Presented in Partial Fulfillment of the Requirements

for Graduation with Distinction in Finance

By

Han Shao

*****

The Ohio State University

Spring, 2011

Thesis Examination Committee:

Dr. Anil Makhija, Advisor

Dr. Itzhak Ben-David

Dr. Rao Unnava

Approved by

_____

Dr. Anil Makhija, Advisor

Department of Finance

**Abstract**

Securities and Exchange Commission (SEC) regulations require the majority of directors of a board to be independent. However, the current definition of "independent director" remains vague when a director is socially connected to the top management through many links such as past work experience, education background, nonprofessional organizational, etc. This paper studies the corporate governance effect of social connections of CEOs and directors by comparing a group of U.S.-listed Israeli firms to their matched U.S. firms. As a result, I find while Israeli boards are more social connected to each other than U.S. firms, Israeli directors have similar degree of social connection to their CEOs as U.S. directors. I find for both Israeli and U.S. firms, the firms are larger when their CEOs and directors have more social connections. I find for U.S. firms, CEO's compensation is higher when the CEO has more social connections, and when the CEO is more connected to the directors, but I didn't find significant results for Israeli firms. On the contrary, for Israeli firms, I find the total compensation of all executives and directors is higher when the directors are more connected to their CEOs, but the results are not significant for U.S. firms.

## ACKNOWLEDGEMENTS

I am sincerely grateful for my advisor Professor Anil Makhija for his unfailing support and insightful comments. I am also thankful for the guidance I have received from Jongha Lim and Yingdi Wang, doctoral candidates at the Fisher College of Business. I also thank the Fisher College of Business and the Undergraduate Research Office for generously funding this project.

## 1. Introduction

Many people question whether corporate board matters, but when things go wrong, the board is often placed in the center of criticism. Amid corporate scandals in recent years, there has been an increasing popularity in the study of the role of board of directors in corporate governance literatures. Possible answers range from boards being legal necessities to fulfill government regulations to boards taking active part of management and control of companies (Adams, Hermalin, Weisbach 2010). To study the role of boards, researches study different attributes of boards and try to determine if some structures have better corporate governance roles. Some important attributes that have been studied are board independence, board size, CEO-Chairman duality, staggered boards, directors' business affiliations to the company, and board share ownership, among others. Besides studying attributes of boards, researches also study functions of boards by categorizing the functions into monitory function and advisory function. In the monitory function, a board is expected to involve in the firm's corporate decision making process in an attempt to align the incentives of the management with the interests of the shareholders. In the advisory function, the board is expected to use the expertise of its members to counsel management in establishing corporate policies (Chen 2007). This paper adds a layer

of "social connection" to the definition of the independence attribute of boards and studies both the monitory and advisory functions of boards.

The current Securities and Exchange Commission (SEC) regulations require the majority of directors of a board to be independent, because independent directors are expected to have an important function in monitoring the Chief Executive Officer (CEO) and other executives. However, the current definition of "independent director" is limited to a director who has neither financial nor familial ties to the CEO or the firm (Hwang, Kim, 2009). What if the board and the top management are socially close? The definition of "independent director" remains vague when it comes to directors with social connections to the CEO through many of the indirect ways such as they may served together on the board of directors of another company, went to school together, worked together in the past, have membership in a same golf club, attend business roundtable meetings together, or serve as trustees of a same charitable organization (Fracassi, Tate, 2009). Romano (2005) argues that reforms mandating increased board independence are window-dressing since firms can circumvent the requirements by hiring directors who satisfy the statutory requirements for independence, but who are somehow connected to the CEO.

However, by saying the definition of "independent director" is vague when adding a layer of "social connection" does not necessarily mean it is a bad thing. On one aspect, it might be true

that directors who are "independent" by definition but are somehow socially connected to the CEO weaken the monitory function of boards. Weakened monitory function leads to negative corporate governance results such as over payment of CEO's compensation. On the other aspect, socially connected directors and the CEO might enhance the advisory function of boards, because directors might share valuable information with their CEOs through social interactions. Enhanced advisory function results in better performance of a company. As a result, the study of the role of social connection in board independence cannot be simply put as good or bad. In this paper, I explain different types of social connections, make hypothesizes of their potential corporate governance effects, and I test the hypothesizes with a unique set of hand-collected data of a group of U.S.-listed Israeli firms and their matched group of U.S.-listed U.S. firms in year 2006.

First, I argue that companies from different country and cultural background have different social attributes and they have different degree of social connections even within a same society. Study of sociology points out that people tends to "stick with" people who are more like themselves. As an analogy, international students at the Ohio State University tend to play more with other international students, for example, Chinese play with Chinese, Indians play with Indians, etc. Consistent with this assumption, as a result of my analysis the boards of

Israeli firms are much more socially connected with boards of other Israeli companies in the United States than between boards of U.S. firms.

Second, through the first observation I noticed that Israeli boards "know" each other better. However, would it also be true that within each Israeli firm, the directors are more socially connected to their CEOs? My test result shows that Israeli directors have the same degree of social connections to their CEOs as U.S. directors. One explanation for this result might be the "bonding hypothesis", which suggests foreign firms list in U.S. to "borrow" from more stringent regulations to reassure investors. (See Appendix Two for more details.) The first and second results together shows that the two groups of firms in this study share commonality while remain different.

Third, I study social connection as a measure of social capital of each CEO and director. Horton, Millo, and Serafeim (2009) suggest that individuals and firms with more social capital tend to be more successful in their competitive environments. I assume that more socially connected CEOs and boards are more powerful and their companies are larger. I take year-end total asset as a measure of size of companies. Consistent with the assumption, I find for both Israeli firms and U.S. firms the total number of CEO's social connections and the total number of

all directors' social connections is positively associated with total asset of firms, after controlling for total asset at the beginning of the year.

Fourth, I study the influence of CEO's and board's social capital on CEO's compensation and total compensation of all executives and directors. Horton, Millo, and Serafeim (2009) also suggest CEOs with more social capital receive more compensation. This might be explained by two different reasons. First, more socially connected CEOs might have more influence in compensation decision making. Second, more socially connected CEOs might provide better service because they are more socially powerful, thus they are better rewarded. Consistent with this assumption, I find for U.S. firms, CEO's compensation is positively associated with CEO's social capital. However, I didn't find significant association between Israeli CEO's compensation and their social capital.

Fifth, I study the effect of social connections between directors and their CEOs on CEO's compensation and total compensation of all executives and directors. The assumption is directors who are socially connected to the CEO might weaken their monitory function in corporate governance thus result in higher compensation for CEO and executives. As a result, for U.S. firms, I find CEO's compensation is higher when directors are more connected to their CEOs. However, I didn't find significant result for Israeli firms. On the contrary, for Israeli firms, I find

total compensation of all executives and directors is higher when directors are more connected to their CEOs. But I didn't find significant result for U.S. firms.

The rest of the paper is organized as follows. Section 2 reviews the related literatures. Section 3 discusses data and methodology, Section 4 introduces hypothesis and testing results, Section 5 concludes.

## 2. Literature Review

Recent studies on board social connections and their corporate governance effect can be summarized into three categories:

The first category examines the social connections between top management, particularly the CEO, and directors. Chidambaran, Kedia, Prabhala (2010) find nonprofessional connections between the CEO and the directors elevate corporate fraud probability, while professional connections attenuate corporate fraud probability. Hwang and Kim (2009) find firms with boards that are socially connected have higher level of CEO compensation and longer CEO tenures. They conclude a considerable percentage of conventionally "independent" boards are substantively not. Fracassi and Tate (2009) find that more powerful CEOs are more likely to appoint directors with ties to the CEO, and that such directors trade more like the CEO in company stock. They also find firms with more connections between management and the board

make fewer internally–prompted earnings restatements and engage in more value-destroying acquisitions. Nguyen-Dang (2008) finds that CEOs with better external connections through cross-directorships are less likely to be fired following poor performance. Kuhen (2007) finds evidence of reduced performance in the mutual fund industry due to preferential hiring of directors who are connected to the advisory firm through other funds.

The second category examines the social connections of CEO, top management, and directors to their business counterparts. Engelberg, Gao, Parsons (2009) find an additional connection to an executive or director outside the firm increases a CEO's compensation by over $17,000 on average. Horton, Millo, Serafeim (2009) find executive's social connections is positively associated with their compensation, while outside director's social connections is negatively associated with their compensation. Cohen, Frazzini, Malloy (2008a) find when mutual fund managers share education link with a firm's board, the managers place higher bets and perform better. Cohen, Frazzini, Malloy (2008b) find analyst outperform on their stock recommendations when they have an educational link to the company. Hochberg and Ljungqvist (2005) find venture capital funds whose parent firms have more influential social network have significantly better performance.

The third category studies the interlocking social connections between two boards. Cai and Servilir (2009) find Merger and Acquisition between two firms whose boards are socially connected creates more value. Stuart and Yin (2009) find that companies, which have interlocking directorships with other companies that had private equity deal exposure, are 42% more likely to receive private equity offers.

## 3. Data and Methodology

### 3.1 U.S.-listed Israeli firms and their matched U.S. firms

The study of the effect of board social connection on corporate governance might have different results for different social communities. As an analogy, at the Ohio State University the Chinese student community might exhibit different academic performance from the domestic U.S. students. In this paper, I study the effect of board social connection by comparing two groups of public firms listed on U.S. stock exchanges. One group of foreign firms listed in U.S. and their matched group of U.S firms. An outstanding example of foreign firms listed in U.S. is the Israeli firms. Out of roughly 600 exchange-listed Israeli firms, as many as about 150 are listed on U.S. exchanges and trade only in U.S.. In this paper, we hand collected data on a list of

Israeli firms that were listed on U.S. exchanges in the year 2006[1]. We also collected data on corresponding U.S. firms that were matched to the Israeli firms by calculating and matching propensity scores and 2-digit SICs. (See Appendix One for more detailed information about the matching process.) After eliminating missing data, I was able to use data on 94 Israeli firms and 75 U.S. firms in 2006. The number of matched U.S. firms is smaller than Israeli firms is justifiable because two or more Israeli firms can be matched to a same U.S. firm.

### 3.2 Compensation and firm data

For each of the Israeli firms and matched U.S. firms, we hand-collected data from SEC proxy statements: Form 20-F, Form 10-K, and Form DEF-14A. We collected total compensation and salary plus bonus as two different measures of CEO's compensation. We also collected total compensation of all executives and directors.

I use firm's total asset at the end of 2006 as a measure of size of each firm. I assume that larger firms have more assets. I also use firm's total asset at the beginning of 2006 to control in regression. The data of total asset is collected from Compustat database.

[1] The data for firm characteristics is part of Prof. Anil Makhija's research work. I was a member of a group of research assistants to collect the data. The year 2006 turned out to have most available data for firms we collected and it is before the financial crisis that started in U.S. in 2007.

### 3.3 Proxies for social connections

To develop proxies for social connections, I use the BoardEx database, by Management Diagnostic Limited Company. The BoardEx database covers over 380, 000 director and executive profiles, mainly Europe and North America, of publicly quoted companies and major private entities[2]. Each person's profile includes his or her current and historical employment company and position, current and historical non-professional organization such as charity organization and clubs, education background, among other information. Most importantly, through that information, BoardEx constructs each person's network. For example, BoardEx shows Steven Jobs overlaps with 392 other individuals, and in more detail, BoardEx shows each overlap with the individual's name, organization, organization type, whether current or historic, and duration in years. (See Appendix Three for a print out of Steven Job's profile.) Besides individual information, BoardEx also records and analyzes network of each company that it has in record.

#### 3.3.1 Social capital for CEOs and boards

Horton, Millo, Serafeim (2009) point out that people who are more socially connected have more chance of being successful. In this paper, I use the number of total social connections

[2] http://www.boardex.com/whos_on_boardex.htm

of a CEO has as an indicator of social capital of the CEO. I also use summation of the number of social connections of all directors of a board as an indicator of social capital of the board. Through BoardEx I was able to collect social connection data for 94 Israeli CEOs and 655 Israeli directors, 75 U.S. CEOs and 499 U.S. directors.

### 3.3.2 Social Connection Index

Point to Point (P2P) analysis in *BoardEx* gives detailed information about any existing networks between two person for 1st degree connections and 2nd degree connections. The 1st degree connection records an overlap if the two persons worked in a same current or historical organization. The 2nd degree connection records an overlap if the two persons share with a third person that have worked in a same company, in a same non-professional organization, or have same education background (same education institution and same year) with both of the two persons. Because for most companies, the 1st degree connection is limited to overlaps within the company, it fails to capture external social connections between the CEO and the directors. I collected the total number of second-degree connections as a proxy for social connections between the CEO and the directors. I weighted the total number of second-degree connections by the total number of directors on board as a measure of Social Connection Index between the

CEO and the directors of a firm. The same method is applied to construct Social Connection Index among the directors.

$$\text{Social Connection Index}_{\text{CEO-directors}} = \frac{\text{2nd degree CEO to directors overlaps}}{\text{number of directors}}$$

$$\text{Social Connection Index}_{\text{directors-directors}} = \frac{\text{2nd degree directors to directors overlaps}}{\text{number of directors}}$$

### 3.3.3 Social connections among boards

P2P analysis in BoardEx at company level gives detailed information about any existing networks among all executives and directors for two firms for 1st degree connections and 2nd degree connections. I use the total number of 1st degree connections and total number of 2nd degree connections as measures of social connections among Israeli boards and U.S. boards.

## 4. Hypothesis and Testing Results

### 4.1 *Hypothesis 1: Israeli firms are more socially connected to each other than U.S. firms.*

Companies from different country and cultural background have different social attributes and they may have different degree of social connections even within a same society. Study of sociology points out that people tends to "stick with" people who are more like themselves. As an analogy, international students at the Ohio State University tend to play more with other international students, for example, Chinese play with Chinese, Indians play with

Indians, etc. So are Israeli firms more socially connected to each other in the United States than their matched U.S. firms?

**Table 1 number of connections of firms**

| | **Israeli firms** | **US firms** |
|---|---|---|
| **# of 1st Degree Connections** | 644 | 134 |
| **Average 1st Degree Connections** | 7.49 | 1.41 |
| **# of 2nd Degree Connections** | 44892 | 16472 |
| **Average 2nd Degree Connections** | 522.00 | 173.39 |
| **Number of observations** | 86 | 95 |

By recording each Israeli firm's and U.S. firm's profiles in BoardEx and running P2P analysis on company level, I was able to measure the degree of social connections of the firms as total number of 1st degree connections and total number of 2nd degree connections. I divide the total number of connections by number of observations to get average connections. Table 1 shows that for 86 Israeli firms there are 644 1st degree connections and 44892 2nd degree connections. In comparison, for 95 U.S. firms[3] there are only 134 1st degree connections and 16472 2nd degree connections. Israeli firms is about 5 times more connected than U.S. firms for 1st degree connections and about 3 times more connected for 2nd degree connections. As a result, hypothesis 1 is supported by the data.

[3] The number of observed U.S. firms is larger than 75 because BoardEx records two profiles for a same company when it is delisted from stock exchange.

### 4.2 *Hypothesis 2: Israeli directors are more connected to their CEOs than U.S. directors.*

Hypothesis 1 has shown that Israeli boards "know" each other better. However, would it also be true that within each Israeli company, the directors are more socially connected to their CEOs? I run two sample T-test on Social Connection Index between the CEO and directors for Israeli firms and matched U.S. firms. Table 2 shows T-test for sample different result in p-value of 0.808, the result fails conclude that there's significant difference.

**Table 2 CEO-director Social Connection Index**

| | **Israeli firms** | **US firms** |
|---|---|---|
| **Mean** | 7.00 | 6.69 |
| **Stand Deviation** | 6.61 | 9.47 |
| **Stand Error Mean** | 0.68 | 1.1 |
| **T-test for difference** | | |
| t-value | -0.24 | |
| p-value | 0.808 | |

The result shows that Israeli directors have about the same degree of social connections to their CEOs as U.S. directors. One explanation for this result might be the "bonding hypothesis", which suggests foreign firms list in U.S. to "borrow" from more stringent regulations to reassure investors. (See Appendix Two for more details.) If the "bonding hypothesis" is valid here, it shows that U.S. regulations are effective in controlling for board social connections to a certain level even though controlling for social connection is not included in the definition of board independence.

### 4.3 *Hypothesis 3: Larger firms have CEOs and directors who are more socially connected.*

Horton, Millo, and Serafeim (2009) suggest that individuals and firms with more social capital tend to be more successful in their competitive environments. I assume that more socially connected CEOs and boards are more powerful and their companies are larger. I take each firm's total asset at the end of 2006 as a measure of size of companies. And I use the number of total social connections of a CEO as an indicator of social capital of the CEO.

**Table 3 regressing total asset on CEO's social capital**

| | Israeli firms | | | | US firms | | | |
|---|---|---|---|---|---|---|---|---|
| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |
| **ceo_sinx** | 2371.571 | -781.44** | 2371.571*** | 2371.571*** | 8266.75*** | 94.273 | 8266.747*** | 8266.747*** |
| | (1465.288) | (302.321) | (294.532) | (394.341) | (2116.40) | (85.509) | (77.820) | (1377.187) |
| **ta_begin** | | 1.806*** | | | | 1.075*** | | |
| | | (0.039) | | | | (0.005) | | |
| **resid_ta_ceo** | | | 1.806*** | | | | 1.075*** | |
| | | | (0.039) | | | | (0.005) | |
| **resid_ta_dir_ceo** | | | | 1.840*** | | | | 1.043*** |
| | | | | (0.054) | | | | (0.105) |
| **Number of observations** | 92 | 92 | 92 | 92 | 74 | 74 | 74 | 74 |
| **R-squared** | 0.03 | 0.96 | 0.96 | 0.93 | 0.17 | 0.99 | 0.99 | 0.66 |

In Table 3, first I run simple regression of total asset on CEO's social capital. I find significant result for U.S. firms at 1% level, but I didn't find significant result for Israeli firms. Then I use total asset at the beginning of 2006 as a control variable, the result becomes significant for Israeli firms, but the result for U.S. firms becomes insignificant. However, simply using total asset at the beginning of 2006 is not correct because CEO's social capital might also be correlated with total asset at the beginning of 2006. To control for collinearly between the dependent variables, I regress total asset at the beginning of 2006 on CEO's social capital and

take the residual. Then I use the residual as a control variable. In the end, the result becomes both significant for Israeli firms and U.S. firms at 1% level, suggesting that CEO's social capital is positively associated with the size of firms.

**Table 4 regressing total asset on board's social capital**

| | Israeli firms | | | | US firms | | | |
|---|---|---|---|---|---|---|---|---|
| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |
| **dir_sinx_total** | 431.461** | -223.583*** | 431.461*** | 493.816*** | 2148.213*** | 32.03* | 2148.213*** | 2201.045*** |
| | (198.353) | (37.483) | (35.337) | (36.928) | (256.579) | (16.510) | (11.833) | (15.538) |
| **ta_begin** | | 1.853*** | | | | 1.069*** | | |
| | | (0.035) | | | | (0.006) | | |
| **resid_ta_dir** | | | 1.853*** | | | | 1.069*** | |
| | | | (0.035) | | | | (0.006) | |
| **resid_ta_dir_ceo** | | | | 1.856*** | | | | 1.069*** |
| | | | | (0.037) | | | | (0.008) |
| **Number of observations** | 92 | 92 | 92 | 92 | 74 | 74 | 74 | 74 |
| **R-squared** | 0.05 | 0.97 | 0.97 | 0.97 | 0.49 | 0.99 | 0.99 | 0.99 |

Similarly, I use the number of total social connections of all directors of a board as an indicator of social capital of the board. I regress firm's total asset at the end of 2006 on board's social capital, and I use the residual from regressing total asset at the beginning of 2006 on board's social capital as a control variable. As a result, I find significant results for both Israeli firms and U.S. firms at 1% level, suggesting board's social capital is also positively associated with the powerfulness of firms.

### 4.4 *Hypothesis 4: CEOs who are more socially connected receive more compensation.*

Horton, Millo, and Serafeim (2009) also suggest CEOs with more social capital receive more compensation. This might be explained by two different reasons. First, more socially connected CEOs might have more influence in compensation decision making. Second, more socially connected CEOs might provide better service because they are more socially powerful, thus they are better rewarded.

**Table 5 regressing CEO's total compensation on CEO's social capital**

| | **Israeli firms** | **US firms** |
|---|---|---|
| | (1) | (2) |
| **ceo_sinx** | 1157.59 | 2382.02** |
| | (1493.15) | (1069.66) |
| **Number of observations** | 56 | 69 |
| **R-squared** | 0.02 | 0.07 |

**Table 6 regressing CEO's salary plus bonus on CEO's social capital**

| | **Israeli firms** | **US firms** |
|---|---|---|
| | (1) | (2) |
| **ceo_sinx** | 815.49 | 526.32** |
| | (559.47) | (224.02) |
| **Number of observations** | 50 | 69 |
| **R-squared** | 0.08 | 0.08 |

Table 5 and Table 6 shows when I regress CEO's total compensation and salary plus bonus on CEO's social capital, the result is both significant for U.S. firms at 5% level. But the result is insignificant for Israeli firms. The result suggests that U.S. CEOs receive more compensation when they are more socially connected, but it is not the case for Israeli CEOs.

**4.5** ***Hypothesis 5: When directors are more socially connected to their CEOs, the CEO receives higher compensation and all executives and directors also receive more compensation.***

Directors who are socially connected to the CEO might weaken their monitory function in corporate governance and result in higher compensation for CEO and executives. The directors might also use the socially connection to get more compensation for themselves.

**Table 7 regressing CEO's total compensation on CEO-director social connection index and director-director social connection index**

| | Israeli firms | | | US firms | | |
|---|---|---|---|---|---|---|
| | **(1)** | **(2)** | **(3)** | **(4)** | **(5)** | **(6)** |
| **board_ceo_sinx** | 0.020 | | | 0.007** | | |
| | (0.022) | | | (0.003) | | |
| **board_board_sinx** | | 0.005 | | | 0.022 | |
| | | (0.004) | | | (0.016) | |
| **residual_bc_bb** | | | 0.008 | | | -0.013 |
| | | | (0.048) | | | (0.038) |
| **Number of observations** | 56 | 56 | 56 | 69 | 69 | 69 |
| **R-squared** | 0.03 | 0.06 | 0.00 | 0.03 | 0.09 | 0.00 |

**Table 8 regressing CEO's salary plus bonus on CEO-director social connection index and director-director social connection index**

| | Israeli firms | | | US firms | | |
|---|---|---|---|---|---|---|
| | **(1)** | **(2)** | **(3)** | **(4)** | **(5)** | **(6)** |
| **board_ceo_sinx** | 0.009 | | | 0.005** | | |
| | (0.019) | | | (0.002) | | |
| **board_board_sinx** | | 0.002 | | | 0.021* | |
| | | (0.003) | | | (0.011) | |
| **residual_bc_bb** | | | 0.016 | | | 0.008 |
| | | | (0.039) | | | (0.120) |
| **Number of observations** | 50 | 50 | 50 | 69 | 69 | 69 |
| **R-squared** | 0.01 | 0.01 | 0.01 | 0.05 | 0.07 | 0.00 |

For the first lines in Table 7 and Table 8, I regress CEO's total compensation and CEO's salary plus bonus on CEO-director Social Connection Index. The results are significant at 5%

level for U.S. firms. For the second line in Table 8 I regress CEO's salary plus bonus on director-director Social Connection Index, I noticed the result is significant at 10% level. Would it be that the CEO's salary plus bonus is higher when the board of directors are more socially connected to each other? Because CEOs are for most of the times also directors on boards in this study, the director-director social connection index has actually included the social connection between the directors and the CEO. In order to take the effect of social connection between the directors and the CEO out of the director-director Social Connection Index, I regress director-director Social Connection Index on CEO-director Social Connection Index, and take the residual. Then I regress CEO's salary plus bonus on the residual, the result becomes insignificant. The result shows, for U.S. firms, the social connection between the directors and their CEO is positively associated with the CEO's compensation, but not the social connection among directors. However, the result is not significant for Israeli firms.

**Table 9 regressing total compensation of executives and directors on CEO-director social index and director-director social index**

| | Israeli firms | | | US firms | | |
|---|---|---|---|---|---|---|
| | **(1)** | **(2)** | **(3)** | **(4)** | **(5)** | **(6)** |
| **board_ceo_sinx** | 0.074*** | | | 0.034 | | |
| | (0.020) | | | (0.022) | | |
| **board_board_sinx** | | 0.008*** | | | 0.007 | |
| | | (0.002) | | | (0.006) | |
| **residual_bc_bb** | | | -0.007 | | | 0.051 |
| | | | (0.040) | | | (0.037) |
| **Number of observations** | 77 | 77 | 77 | 66 | 66 | 66 |
| **R-squared** | 0.15 | 0.15 | 0.00 | 0.07 | 0.04 | 0.06 |

In Table 9, I regress total compensation of all executives and directors on CEO-director Social Connection Index. The result is significant at 1% level for Israeli firms, but not for U.S. firms. Again, when I regress total compensation of all executives and directors on the residual of director-director social connection index on CEO-directors social connection index, the result become insignificant. The result suggests that, for Israeli firms, total compensation of all executives and directors is higher when the directors are more socially connected to their CEO. However, the result is not significant for U.S. firms.

As a result for U.S. firms, CEO's compensation is higher when the directors are more connected to their CEOs, but it is not the case for Israeli CEOs; For Israeli firms, the total compensation of all executives and directors is higher when the directors are more connected to their CEOs, but it is not the case for U.S. firms.

**5. Conclusions**

The main goal of this paper is to study the corporate governance effect of social connections of CEO and directors. The current SEC definition of "independent director" remains vague because it fails to capture social connections among the top management and the directors through many links such as previous work experience, education background, and nonprofessional organization, etc. Because different social communities have variable social

connection effects, different from previous works, this paper compares the social connection effects between a group of U.S.-listed Israeli firms and their matched U.S. firms. As a result of the analysis, the two groups share some effects in common while differ in others. For both Israeli firms and U.S. firms, the firms are larger when the CEOs and directors have more social capital. For U.S. firms, CEO's compensation is higher when the CEO has more social capital, and when the CEO is more connected to the directors, but it is not the case for Israeli firms. For Israeli firms, the total compensation of all executives and directors is higher when the directors are more connected to their CEOs, but it is not the case for U.S. firms. Further study should be emphasized on finding out why are the social connection effects differ from Israeli firms to their matched U.S. firms.

## BIBLIOGRAPHY


Anderson, S. E., and L. J. Williams, 1996, Interpersonal, Job, and Individual Factors Related to Helping Processes at Work, *Journal of Allied Psychology* 81, 282-296.

Cai, Y., and M. Sevilir, 2009, Board Connections and M&A Transactions, Working Paper, University of North Carolina.

Chen, D., 2007, The Monitoring and Advisory Functions of Corporate Boards: Theory and Evidence, *Job Market Paper*, Duke University

Chidambaran, NK, S. Kedia, and Nagpurnanand Prabhala, 2010, CEO-Director Connections and Corporate Fraud, working paper, Fordham University, Rutgers University, and the University of Maryland.

Cohen L., Frazzini, A., and C. Malloy and L. Cohen, 2008, Sell Side School Ties, *NBER Working Paper* 13973.

Cohen L., Frazzini, A., and C. Malloy, 2008, The Small World of Investing: Board Connections and Mutual Fund Returns, *Journal of Political Economy* 116, 951-979.

Engelberg, J., P. Gao and C. Parsons, 2009, The Value of a Rolodex: CEO Pay and Personal Networks, *Working Paper*, University of North Carolina

Fischer, C. S., 1982, What do we mean by "friend"? An Inductive Study, *Social Networks* 3. 287-306.

Fracassi and Tate, 2009, External Networking and Internal Firm Governance, *Working paper*, University of California, Los Angeles.

Hochberg, Y., A. Ljungqvist and Y. Lu, 2007, Whom You Know Matters: Venture Capital Networks and Investment Performance, *Journal of Finance* 62, 251-301.

Horton, J., Y. Millo, and G. Serafeim, 2009, Paid for Connections? Social Networks, Executive and Outside Director Compensation, *Working Paper*, Harvard Business School.

Hwang, B., and S. Kim, 2009, It Pays to have Friends, *Journal of Financial Economics* 93, 138-158.

Krachkardt, D., and D.J.Brass, 1994, "Intra-organizational Networks: The Micro Side", In Wasserman,S., Galaskiewicz, J., (Eds), Advances in the Social and Behavioral Sciences from Social Network Analysis, Sage, Beverly Hills, PP 209-230.

Kuhnen, Camelia, 2007, Social Networks, Corporate Governance and Contracting in the Mutual Fund Industry, Mimeo.

Nguyen-Dang, Bang, 2008, Does the Rolodex Matter? Corporate Elite's Small World and the

Effectiveness of Boards of Directors, Mimeo

Romano, R., 2005, The Sarbanes-Oxley Act and the making of quack corporate governance. Yale Law Review 114: 1521-1611.

Renee, A., B. Hermalin, E. Benjamin, M.S. Weisbach, 2010, The Role of Boards of Directors in Corporate Governance: A Conceptual Framework & Survey. *Charles A. Dice Center Working Paper* No. 2008-21

Saint-Charles, Johanne and Pierre Mongeau, 2009, "Different Relationships for Coping with Ambiguity and Uncertainty in Organizations," *Social Networks*, Vol., 31.

Schmidt, Breno, 2009, Costs and Benefits of "Friendly Boards during Mergers and Acquisitions, *Working Paper*, Emory University.

Stuart, T., S. Yim, 2009, Board Interlocks and the Propensity to be Targeted in Private Equity Transactions. *Journal of Financial Economics*.

Westphal, J., 1999, Collaboration in the Boardroom: Behavioral and Performance Consequences of CEO-Board Social Ties, *The Academy of Management Journal* 42, 7-24.

**Appendix One: Matching U.S. firms to Israeli firms listed in U.S.** [4]

Matching based on closest propensity scores (p-scores) and 2-digit SIC

1. Step 1: Calculate p-scores for each firm in Compustat (including US-listed Israeli firms) by running probit regressions for each year in the time period (1996-2008).
   - Full set of covariate (firm characteristics): log of total assets (*SIZE*) , 2-year average sales growth (*SGROWTH*), cash to assets (*CASH/ASSETS*), capital expenditure to assets (*CAPEX/ASSETS*), ppe-to-sales (*PPE/SALES*), ebit-to-sales (*EBIT/SALES*), long-term debt plus current portion of long-term debt to assets (*DEBT/ASSETS*).
   - In the first round, run probit regressions using a full set of covariates. If p-scores are not estimated due to missing covariates, drop some covariates and go for the second round estimation, and so on, until I get p-scores for all Israeli firms.
   - More specifically, probit equation for each round is as follows:
     - First round:

$$Israelfirm_{it} = \beta_1 SIZE_{it} + \beta_2 SGROWTH_{it} + \beta_3 CASH/ASSETS_{it} + \beta_4 CAPEX/ASSETS_{it} + \beta_5 PPE/SALES_{it} + \beta_6 EBIT/SALES_{it} + \beta_7 DEBT/ASSETS_{it} + \varepsilon_{it}$$

     - Second round (1996~2005)

$$Israelfirm_{it} = \beta_1 SIZE_{it} + \beta_2 CASH/ASSETS_{it} + \beta_3 CAPEX/ASSETS_{it} + \beta_4 PPE/SALES_{it} + \beta_5 EBIT/SALES_{it} + \beta_6 DEBT/ASSETS_{it} + \varepsilon_{it}$$

     - Second round (2006~2008)

$$Israelfirm_{it} = \beta_1 SIZE_{it} + \beta_2 SGROWTH_{it} + \beta_3 CASH/ASSETS_{it} + \beta_4 EBIT/SALES_{it} + \beta_5 DEBT/ASSETS_{it} + \varepsilon_{it}$$

     - Third round:

$$Israelfirm_{it} = \beta_1 SIZE_{it} + \beta_2 CASH/ASSETS_{it} + \beta_3 EBIT/SALES_{it} + \varepsilon_{it}$$

2. Step 2: Within the same 2-digit SIC level, choose a US match firm with the closest p-score.

[4] The matching process is done by Jongha Lim, doctoral candidate at the Finance Department at the Fisher College of Business.

**Appendix Two: Bonding Hypothesis**

While the returns available on investments in mature developed economies may not be higher than those for projects in emerging markets, foreign direct investment still seems to flow predominantly to just the developed economies.[5] This may be the result of poor corporate governance in emerging markets, which means that the high investment returns do not actually reach the investor. The investors in turn take their capital to the developed economies, with their strong corporate governance, and settle for lower but assured returns. This has motivated firms in emerging markets to list in developed economies and come under the strong corporate governance requirements there. By listing in the US, these firms come under the stronger corporate governance requirements of the US exchange, as well as US institutions such as the SEC.

[5] "The interesting thing, of course, about international capital flows is that more than 90% of it goes to 12 countries. Not surprisingly… better endowed in terms of predictability and the functions of governance," Remarks of James Wolfensohn, then-President, World Bank, April 3, 2002.

## Appendix Three: Steven Job's Profile and Social Network on BoardEx

### Steven Paul Jobs
### Profile

Add To List

Download Word

View: Date Board

This Individual overlaps with 392 other individuals

**Details**

| DoB | Age | Gender | Nationality | Committee Roles | | Last Period's Comp. USD (000s) | Liquid Wealth USD (000s) | Total Wealth USD (000s) |
|---|---|---|---|---|---|---|---|---|
| | | | | Current | Historic | | | |
| 24 Feb 1955 | 56 | M | American | 0 | 1 | 0 | 5,798,070 | 5,798,070 |

**Current Positions**

| Start Date | Organisation Name | Role | Role Description | Yrs to Retirement | Committees | Last Period's Comp. USD (000s) | Liquid Wealth USD (000s) | Total Wealth USD (000s) |
|---|---|---|---|---|---|---|---|---|
| 08 May 2006 | WALT DISNEY (HLDG) CO (Q) | Director - SD (Brd - SD) | | 13.8 | n.a. | n.a. | 5,798,070 | 5,798,070 |
| 2000 | APPLE INC (Apple Computer Inc prior to 01/2007) (Q) | CEO (Brd - ED) | Also Co-Founder, Principal Executive Officer, On Medical Leave of Absence since 17/01/2011 | 8.8 | n.a. | 0 | n.a. | n.a. |

**Past Positions**

| Start Date | End Date | Organisation Name | Role | Role Description | Committees |
|---|---|---|---|---|---|
| Mar 1991 | 08 May 2006 | PIXAR INC (De-listed 05/2006) (Q) | Chairman/CEO (Brd - ED) | Also Co-Founder | n.a. |
| Sep 1999 | 2002 | GAP INC (Q) | Director - SD (Brd - SD) | | G |
| 05 Aug 1997 | 2000 | APPLE INC (Apple Computer Inc prior to 01/2007) (Q) | Interim CEO (Brd - ED) | Also Advisor | n.a. |
| Dec 1996 | 05 Aug 1997 | APPLE INC (Apple Computer Inc prior to 01/2007) (Q) | Consultant (Non-Brd) | | n.a. |
| Oct 1985 | Dec 1996 | NeXT Computer Inc (P) | Chairman/CEO (Brd - ED) | | n.a. |
| Feb 1986 | Mar 1991 | PIXAR INC (De-listed 05/2006) (Q) | CEO (Brd - ED) | Also Co-Founder | n.a. |
| 01 Apr 1976 | 1985 | APPLE INC (Apple Computer Inc prior to 01/2007) (Q) | CEO (Brd - ED) | Also Co-Founder | n.a. |
| 1974 | 1976 | ATARI INC (Infogrames prior to 03/2003) (De-listed 05/2008) (Q) | Designer (Non-Brd) | Games Designer | n.a. |
| | | HEWLETT-PACKARD (HP) CO (Q) | Employee (Non-Brd) | | n.a. |

**Past Other Activities**

| Start Date | End Date | Organisation | Role |
|---|---|---|---|
| | | National Academy of Engineering (NAE) (USA) | Member |

Grey = Not a member of a Board analysed in BoardEx at date selected

# = Assumed Age given incomplete Date of Birth

**Education**

| Date | Institute | Qualification |
|---|---|---|
| | Reed College | Attended |

**Achievements**

| Date | Organisation | Award/Achievement |
|---|---|---|
| 2010 | Financial Times Ltd | Person of the Year |
| 21 Jun 2010 | Stevie Awards Inc | Executive of the Year - Computer |

## Appendix Three Continued

**Steven Paul Jobs**
**Individual Network**

Add To List

Download | Word | Excel® | CSV

Show Filter Options

**Steven Paul Jobs is connected to:**

Show 50 Results Per Page | Previous | Page: 1 - 1 - 8 | Next

**BoardEx Network**

| Individual | | Organisation | Organisation Type | Current / Historic | Duration (years) |
|---|---|---|---|---|---|
| Robin Ann Abrams | via | APPLE INC (Apple Computer Inc prior to 01/2007) | Quoted | Historic (1997) | < 1 |
| Sonita Ahmed | via | APPLE INC (Apple Computer Inc prior to 01/2007) | Quoted | Historic (1997) | < 1 |
| Roxane Al-Fayez | via | GAP INC | Quoted | Historic (2002) | 3 |
| Doctor Gilbert (Gil) F Amelio | via | APPLE INC (Apple Computer Inc prior to 01/2007) | Quoted | Historic (1997) | 1 |
| Fred D Anderson Jr | via | APPLE INC (Apple Computer Inc prior to 01/2007) | Quoted | Historic (2006) | 10 |
| Susan E Arnold | via | WALT DISNEY (HLDG) CO | Quoted | Current | 4 |
| Maury Austin | via | APPLE INC (Apple Computer Inc prior to 01/2007) | Quoted | Historic (1997) | 1 |
| Gregor S Bailar | via | NeXT Computer Inc | Private | Historic (1992) | 4 |
| Sean Bailey | via | WALT DISNEY (HLDG) CO | Quoted | Current | 1 |
| Michelle A Banks | via | GAP INC | Quoted | Historic (2002) | 3 |
| Jill Elikann Barad | via | PIXAR INC (De-listed 05/2006) | Quoted | Historic (2002) | 5 |
| Leroy T Barnes Jr | via | GAP INC | Quoted | Historic (2001) | 2 |
| Susan Kelly Barnes | via | NeXT Computer Inc | Private | Historic (1991) | 6 |
| | via | APPLE INC (Apple Computer Inc prior to 01/2007) | Quoted | Historic (1985) | 4 |
| David (Dave) J Barram | via | APPLE INC (Apple Computer Inc prior to 01/2007) | Quoted | Historic (1985) | < 1 |
| Randall S Battat | via | APPLE INC (Apple Computer Inc prior to 01/2007) | Quoted | Historic (1985) | 4 |
| Simon Tristan Bax | via | PIXAR INC (De-listed 05/2006) | Quoted | Historic (2006) | 2 |
| James (Jim) R Bean | via | APPLE INC (Apple Computer Inc prior to 01/2007) | Quoted | Historic (1981) | 1 |
| Lynn Beckemeyer | via | WALT DISNEY (HLDG) CO | Quoted | Historic (2006) | < 1 |
| Ronald (Ron) R Beegle | via | GAP INC | Quoted | Historic (2002) | 3 |
| Cliff Bell | via | APPLE INC (Apple Computer Inc prior to 01/2007) | Quoted | Historic (1985) | 1 |
| Michael (Mike) A Bell | via | APPLE INC (Apple Computer Inc prior to 01/2007) | Quoted | Historic (2007) | 5 |
| Adrian David Bellamy | via | GAP INC | Quoted | Historic (2002) | 3 |
| Bridget Ryan Berman | via | APPLE INC (Apple Computer Inc prior to 01/2007) | Quoted | Historic (2005) | 1 |
| Andy Bird | via | WALT DISNEY (HLDG) CO | Quoted | Current | 5 |
| Lewis (Lee) L Bird III | via | GAP INC | Quoted | Historic (2002) | 1 |